

L1 ANSWER 1 OF 1 WPIDS (C) 2003 THOMSON DERWENT

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TI Conc'n. of unsaturated fatty acid ester - involves transesterification with oil-fat hydrolase.

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A method for the conc'n. of an unsatd. fatty acid ester in which a fatty acid ester consisting of a lower monohydric alcohol ester of a fatty acid mixt. contg. unsatd. fatty acid having not less than 18 carbon atoms, in which the carbon atom nearest to carboxy gp. among the carbon atoms relating to C-C double bond is 4th, 5th or 6th carbon atom from the carboxy carbon atom, and a polyhydric alcohol are transesterified with an oil-fat hydrolase and then the unreacted fatty acid ester is recovered.

In an example, 2 g of sardine oil fatty acid methyl ester is held at 37 deg.C for 30 min. and then 10 g of 90% glycerol aq. soln. contg. 200 IU/g of lipase originated from *Candida cylindracea* is added to it and a transesterification reaction is carried out for 2 hrs. Then, the lipase is inactivated by heating in boiling water for 20 min. and extracted with n-hexane to recover 1.9 g reaction prod. Then, it is fed to a silica gel column and developed with chloroform to separate 250 mg of the prod. and to recover 155 mg unreacted methyl ester. The methyl ester contains 15.2% eicosapentaenoic acid (I), 2.8% docosapentaenoic acid (II) and 15.3% docosahexaenoic acid (III) resp., compared to the original methyl ester contg. 13.1% (I), 1.9% (II) and 10.9% (III).

USE/ADVANTAGE - The method can concentrate the unsatd. fatty acid ester without using a large amt. of the organic solvent.

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